

RECEIVED
OPPT NCICROBUST SUMMARIES FOR TOXICITY TESTING ON
PETROLEUM OXIDATES AND DERIVATIVES THEREOF

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Physical/Chemical Property - Melting Point	
Test Substance:	
Chemical Name	Distillates, (petroleum), oxidized light
CAS#	64742-98-9
Remarks	
Method:	
Method/Guideline followed	OECD 102
Test Type	Melting Point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Differential Scanning Calorimetry (DSC) as described in ASTM E 794-98 was used to determine Melting point.
Results:	-31.0 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS164316A: Determination of Melting Point/Melting Range Following OECD Guideline 102; Envantage Inc., 4/19/02

Physical/Chemical Property - Melting Point	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized
CAS#	64743-00-6
Remarks	
Method:	
Method/Guideline followed	OECD 102
Test Type	Melting point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Differential Scanning Calorimetry (DSC) as described in ASTM E 794-98 was used to determine Melting point.
Results:	33.6 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS160758A; Determination of Melting Point/Melting Range Following OECD Guideline 102; Envantage Inc., 4/19/02

Physical/Chemical Property - Melting Point	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized
CAS#	64743-01-7
Remarks	
Method:	
Method/Guideline followed	OECD 102
Test Type	Melting point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Differential Scanning Calorimetry (DSC) as described in ASTM E 794-98 was used to determine Melting point.

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Results:	38.9 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS157210; Determination of Melting Point/Melting Range Following OECD Guideline 102; Envantage Inc., 4/19/02

Physical/Chemical Property - Melting Point	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized, calcium salt
CAS#	68425-34-3
Remarks	
Method:	
Method/Guideline followed	OECD 102
Test Type	Melting point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Differential Scanning Calorimetry (DSC) as described in ASTM E 794-98 was used to determine Melting point.
Results:	49.9 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166885: Determination of Melting Point/Melting Range Following OECD Guideline 102; Envantage Inc., 4/19/02

Physical/Chemical Property - Melting Point	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters
CAS#	68602-85-7
Remarks	
Method:	
Method/Guideline followed	OECD 102
Test Type	Melting point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Differential Scanning Calorimetry (DSC) as described in ASTM E 794-98 was used to determine Melting point.
Results:	38.0 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166886: Determination of Melting Point/Melting Range Following OECD Guideline 102; Envantage Inc., 4/19/02

Physical/Chemical Property - Melting Point	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, calcium salts
CAS#	68603-11-2
Remarks	
Method:	

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Method/Guideline followed	OECD 102
Test Type	Melting point
GLP (Y/N)	
Year (Study Performed)	2001 - 2002
Remarks	Differential Scanning Calorimetry (DSC) as described in ASTM E 794-98 was used to determine Melting point.
Results:	41.8 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166882: Determination of Melting Point/Melting Range Following OECD Guideline 102; Envantage Inc., 4/19/02

Physical/Chemical Property - Melting Point	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, barium salts
CAS#	68603-10-1
Remarks	
Method:	
Method/Guideline followed	OECD 102
Test Type	Melting point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Differential Scanning Calorimetry (DSC) as described in ASTM E 794-98 was used to determine Melting point.
Results:	42.9 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166881: Determination of Melting Point/Melting Range Following OECD Guideline 102; Envantage Inc., 4/19/02

Physical/Chemical Property - Boiling Point	
Test Substance:	
Chemical Name	Distillates, (petroleum), oxidized light
CAS#	64742-98-9
Remarks	
Method:	
Method/Guideline followed	ASTM D6352-98
Test Type	Boiling Point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	ASTM D6352-98 Standard Test Method for Boiling Range Distribution of Petroleum Distillates in Boiling Range from 174 to 700 deg C by GC was used in place of the atmospheric distillation method outlined in OECD 103 due to wide boiling range of test material.
Results:	91 to 450 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS164316A: Determination of the Boiling Point/Boiling Ranges Following OECD Guideline 103; Envantage Inc.,

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Physical/Chemical Property - Boiling Point	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized
CAS#	64743-00-6
Remarks	
Method:	
Method/Guideline followed	ASTM D6352-98
Test Type	Boiling Point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	ASTM D6352-98 Standard Test Method for Boiling Range Distribution of Petroleum Distillates in Boiling Range from 174 to 700 deg C by GC was used in place of the atmospheric distillation method outlined in OECD 103 due to wide boiling range of test material.
Results:	201 to >700 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS160758A: Determination of the Boiling Point/Boiling Ranges Following OECD Guideline 103; Envantage Inc., 4/19/02

Physical/Chemical Property - Boiling Point	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized
CAS#	64743-01-7
Remarks	
Method:	
Method/Guideline followed	ASTM D6352-98
Test Type	Boiling Point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	ASTM D6352-98 Standard Test Method for Boiling Range Distribution of Petroleum Distillates in Boiling Range from 174 to 700 deg C by GC was used in place of the atmospheric distillation method outlined in OECD 103 due to wide boiling range of test material.
Results:	214 to >700 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS157210: Determination of the Boiling Point/Boiling Ranges Following OECD Guideline 103; Envantage Inc., 4/19/02

Physical/Chemical Property - Boiling Point	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized, calcium salt

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CAS#	68425-34-3
Remarks	
Method:	
Method/Guideline followed	ASTM D6352-98
Test Type	Boiling Point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	ASTM D6352-98 Standard Test Method for Boiling Range Distribution of Petroleum Distillates in Boiling Range from 174 to 700 deg C by GC was used in place of the atmospheric distillation method outlined in OECD 103 due to wide boiling range of test material.
Results:	352 to >700 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166885: Determination of the Boiling Point/Boiling Ranges Following OECD Guideline 103; Envantage Inc., 4/19/02

Physical/Chemical Property - Boiling Point	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters
CAS#	68602-85-7
Remarks	
Method:	
Method/Guideline followed	ASTM D6352-98
Test Type	Boiling Point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	ASTM D6352-98 Standard Test Method for Boiling Range Distribution of Petroleum Distillates in Boiling Range from 174 to 700 deg C by GC was used in place of the atmospheric distillation method outlined in OECD 103 due to wide boiling range of test material.
Results:	204 to >700 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166886: Determination of the Boiling Point/Boiling Ranges Following OECD Guideline 103; Envantage Inc., 4/19/02

Physical/Chemical Property - Boiling Point	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, calcium salts
CAS#	68603-11-2
Remarks	
Method:	
Method/Guideline followed	ASTM D6352-98
Test Type	Boiling Point

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GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	ASTM D6352-98 Standard Test Method for Boiling Range Distribution of Petroleum Distillates in Boiling Range from 174 to 700 deg C by GC was used in place of the atmospheric distillation method outlined in OECD 103 due to wide boiling range of test material.
Results:	193 to >700 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166882: Determination of the Boiling Point/Boiling Ranges Following OECD Guideline 103; Envantage Inc., 4/19/02

Physical/Chemical Property - Boiling Point

Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, barium salts
CAS#	68603-10-1
Remarks	
Method:	
Method/Guideline followed	ASTM D6352-98
Test Type	Boiling Point
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	ASTM D6352-98 Standard Test Method for Boiling Range Distribution of Petroleum Distillates in Boiling Range from 174 to 700 deg C by GC was used in place of the atmospheric distillation method outlined in OECD 103 due to wide boiling range of test material.
Results:	193 to >700 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166881: Determination of the Boiling Point/Boiling Ranges Following OECD Guideline 103; Envantage Inc., 4/19/02

Physical/Chemical Property – Vapor Pressure

Test Substance:	
Chemical Name	Distillates, (petroleum), oxidized light
CAS#	64742-98-9
Remarks	
Method:	
Method/Guideline followed	OECD 104
Test Type	Vapor Pressure
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Vapor pressure was calculated using partial pressure summation adaptation based on the boiling point range determined by the method ASTM D6352-98.

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Results:	69 Pa at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS164316A: Determination of the Vapor Pressure Following OECD Guideline 104; Envantage Inc., 4/19/02

Physical/Chemical Property – Vapor Pressure	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized
CAS#	64743-00-6
Remarks	
Method:	
Method/Guideline followed	OECD 104
Test Type	Vapor Pressure
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Vapor pressure was calculated using partial pressure summation adaptation based on the boiling point range determined by the method ASTM D6352-98.
Results:	<1 Pa at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS160758A: Determination of the Vapor Pressure Following OECD Guideline 104; Envantage Inc., 4/19/02

Physical/Chemical Property – Vapor Pressure	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized
CAS#	64743-01-7
Remarks	
Method:	
Method/Guideline followed	OECD 104
Test Type	Vapor Pressure
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Vapor pressure was calculated using partial pressure summation adaptation based on the boiling point range determined by the method ASTM D6352-98.
Results:	<1 Pa at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS157210: Determination of the Vapor Pressure Following OECD Guideline 104; Envantage Inc., 4/19/02

Physical/Chemical Property – Vapor Pressure	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized, calcium salt
CAS#	68425-34-3
Remarks	
Method:	

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Method/Guideline followed	OECD 104
Test Type	Vapor Pressure
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Vapor pressure was calculated using partial pressure summation adaptation based on the boiling point range determined by the method ASTM D6352-98.
Results:	< 1 Pa at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166885: Determination of the Vapor Pressure Following OECD Guideline 104; Envantage Inc., 4/19/02

Physical/Chemical Property – Vapor Pressure	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters
CAS#	68602-85-7
Remarks	
Method:	
Method/Guideline followed	OECD 104
Test Type	Vapor Pressure
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Vapor pressure was calculated using partial pressure summation adaptation based on the boiling point range determined by the method ASTM D6352-98.
Results:	<1 Pa at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166886: Determination of the Vapor Pressure Following OECD Guideline 104; Envantage Inc., 4/19/02

Physical/Chemical Property – Vapor Pressure	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, calcium salts
CAS#	68603-11-2
Remarks	
Method:	
Method/Guideline followed	OECD 104
Test Type	Vapor Pressure
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Vapor pressure was calculated using partial pressure summation adaptation based on the boiling point range determined by the method ASTM D6352-98.
Results:	<1 Pa at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166882: Determination of the Vapor Pressure Following OECD Guideline 104; Envantage Inc., 4/19/02

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Physical/Chemical Property – Vapor Pressure	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, barium salts
CAS#	68603-10-1
Remarks	
Method:	
Method/Guideline followed	OECD 104
Test Type	Vapor Pressure
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Vapor pressure was calculated using partial pressure summation adaptation based on the boiling point range determined by the method ASTM D6352-98.
Results:	<1 Pa at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166881: Determination of the Vapor Pressure Following OECD Guideline 104; Envantage Inc., 4/19/02

Physical/Chemical Property – Partition Coefficient	
Test Substance:	
Chemical Name	Distillates, (petroleum), oxidized light
CAS#	64742-98-9
Remarks	
Method:	
Remarks	Octanol water partition coefficient could not be measured for this material because it is a class 2 substance that contains a mixture of hydrophilic and hydrophobic materials. The hydrophilic acids partitioned into the water phase while the hydrophobic, aliphatic hydrocarbons and methyl esters partitioned into the octanol phase giving a distorted value for octanol water partition coefficient. The calculated octanol water coefficient for the raw material, light petroleum distillate is 3.3 to 7.06. The petroleum oxidate in subcategory 1 is expected to have a similar octanol partition coefficient to the starting raw material.
Results:	Estimated to be 3.3 to 7.06.
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	ASTDR. 1995. Toxicological Profile for Fuel Oils. Atlanta, GA; US Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry.

Physical/Chemical Property – Partition Coefficient	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized
CAS#	64743-00-6

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Remarks	
Method:	
Remarks	Octanol water partition coefficient could not be measured for this material because it is a class 2 substance that contains a mixture of hydrophilic and hydrophobic materials. The hydrophilic acids partitioned into the water phase while the hydrophobic, aliphatic hydrocarbons and methyl esters partitioned into the octanol phase giving a distorted value for octanol water partition coefficient. The calculated octanol water coefficient for the starting raw materials petrolatum and slack wax have a calculated partition coefficient greater than 4.9 This petroleum oxidate in subcategory 2 is expected to have a similar octanol partition coefficient to the starting raw material.
Results:	Estimated to be greater than 4.9
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	The Petroleum HPV Testing Group. 2002. High Production Volume (HPV) Chemical Challenge Program. Test Plan-Waxes and Related Materials Category.

Physical/Chemical Property – Partition Coefficient	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized
CAS#	64743-01-7
Remarks	
Method:	
Remarks	Octanol water partition coefficient could not be measured for this material because it is a class 2 substance that contains a mixture of hydrophilic and hydrophobic materials. The hydrophilic acids partitioned into the water phase while the hydrophobic, aliphatic hydrocarbons and methyl esters partitioned into the octanol phase giving a distorted value for octanol water partition coefficient. The calculated octanol water coefficient for the starting raw materials petrolatum and slack wax have a calculated partition coefficient greater than 4.9 This petroleum oxidate in subcategory 2 is expected to have a similar octanol partition coefficient to the starting raw material.
Results:	Estimated to be greater than 4.9
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	The Petroleum HPV Testing Group. 2002. High Production Volume (HPV) Chemical Challenge Program. Test Plan-Waxes and Related Materials Category.

Physical/Chemical Property – Partition Coefficient	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized, calcium salt
CAS#	68425-34-3
Remarks	
Method:	

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Remarks	Octanol water partition coefficient could not be measured for this material because it is a class 2 substance that contains a mixture of hydrophilic and hydrophobic materials. The hydrophilic acids partitioned into the water phase while the hydrophobic, aliphatic hydrocarbons and methyl esters partitioned into the octanol phase giving a distorted value for octanol water partition coefficient. The calculated octanol water coefficient for the starting raw materials petrolatum and slack wax have a calculated partition coefficient greater than 4.9 This petroleum oxidate in subcategory 2 is expected to have a similar octanol partition coefficient to the starting raw material.
Results:	Estimated to be greater than 4.9
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	The Petroleum HPV Testing Group. 2002. High Production Volume (HPV) Chemical Challenge Program. Test Plan-Waxes and Related Materials Category.

Physical/Chemical Property – Partition Coefficient	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters
CAS#	68602-85-7
Remarks	
Method:	
Remarks	Octanol water partition coefficient could not be measured for this material because it is a class 2 substance that contains a mixture of hydrophilic and hydrophobic materials. The hydrophilic acids partitioned into the water phase while the hydrophobic, aliphatic hydrocarbons and methyl esters partitioned into the octanol phase giving a distorted value for octanol water partition coefficient. The calculated octanol water coefficient for the starting raw materials petrolatum and slack wax have a calculated partition coefficient greater than 4.9 This petroleum oxidate in subcategory 2 is expected to have a similar octanol partition coefficient to the starting raw material.
Results:	Estimated to be greater than 4.9
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	The Petroleum HPV Testing Group. 2002. High Production Volume (HPV) Chemical Challenge Program. Test Plan-Waxes and Related Materials Category.

Physical/Chemical Property – Partition Coefficient	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, calcium salts
CAS#	68603-11-2
Remarks	
Method:	
Remarks	Octanol water partition coefficient could not be measured for

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	this material because it is a class 2 substance that contains a mixture of hydrophilic and hydrophobic materials. The hydrophilic acids partitioned into the water phase while the hydrophobic, aliphatic hydrocarbons and methyl esters partitioned into the octanol phase giving a distorted value for octanol water partition coefficient. The calculated octanol water coefficient for the starting raw materials petrolatum and slack wax have a calculated partition coefficient greater than 4.9 This petroleum oxidate in subcategory 2 is expected to have a similar octanol partition coefficient to the starting raw material.
Results:	Estimated to be greater than 4.9
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	The Petroleum HPV Testing Group. 2002. High Production Volume (HPV) Chemical Challenge Program. Test Plan-Waxes and Related Materials Category.

Physical/Chemical Property – Partition Coefficient	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, barium salts
CAS#	68603-10-1
Remarks	
Method:	
Remarks	Octanol water partition coefficient could not be measured for this material because it is a class 2 substance that contains a mixture of hydrophilic and hydrophobic materials. The hydrophilic acids partitioned into the water phase while the hydrophobic, aliphatic hydrocarbons and methyl esters partitioned into the octanol phase giving a distorted value for octanol water partition coefficient. The calculated octanol water coefficient for the starting raw materials petrolatum and slack wax have a calculated partition coefficient greater than 4.9 This petroleum oxidate in subcategory 2 is expected to have a similar octanol partition coefficient to the starting raw material.
Results:	Estimated to be greater than 4.9
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	The Petroleum HPV Testing Group. 2002. High Production Volume (HPV) Chemical Challenge Program. Test Plan-Waxes and Related Materials Category.

Physical/Chemical Property - Water Solubility	
Test Substance:	
Chemical Name	Distillates, (petroleum), oxidized light
CAS#	64742-98-9
Remarks	
Method:	
Method/Guideline followed	OECD 105
Test Type	Water Solubility

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GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Shake flask method
Results:	59336 ppb at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS164316A: Determination of the Water Solubility Following OECD Guideline 105; Envantage Inc., 4/19/02

Physical/Chemical Property - Water Solubility	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized
CAS#	64743-00-6
Remarks	
Method:	
Method/Guideline followed	OECD 105
Test Type	Water Solubility
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Shake flask method
Results:	1248 ppb at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS160758A: Determination of the Water Solubility Following OECD Guideline 105; Envantage Inc., 4/19/02

Physical/Chemical Property - Water Solubility	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized
CAS#	64743-01-7
Remarks	
Method:	
Method/Guideline followed	OECD 105
Test Type	Water solubility
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Shake flask method
Results:	347 ppb at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS157210: Determination of the Water Solubility Following OECD Guideline 105; Envantage Inc., 4/19/02

Physical/Chemical Property - Water Solubility	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized, calcium salt
CAS#	68425-34-3
Remarks	
Method:	

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Method/Guideline followed	OECD 105
Test Type	Water Solubility
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Shake flask method
Results:	346 ppb at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166885: Determination of the Water Solubility Following OECD Guideline 105; Envantage Inc., 4/19/02

Physical/Chemical Property - Water Solubility	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters
CAS#	68602-85-7
Remarks	
Method:	
Method/Guideline followed	OECD 105
Test Type	Water Solubility
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Shake flask method
Results:	537 ppb at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166886: Determination of the Water Solubility Following OECD Guideline 105; Envantage Inc., 4/19/02

Physical/Chemical Property - Water Solubility	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, calcium salts
CAS#	68603-11-2
Remarks	
Method:	
Method/Guideline followed	OECD 105
Test Type	Water Solubility
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Shake flask method
Results:	1287 ppb at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166882: Determination of the Water Solubility Following OECD Guideline 105; Envantage Inc., 4/19/02

Physical/Chemical Property – Water Solubility	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters,

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	barium salts
CAS#	68603-10-1
Remarks	
Method:	
Method/Guideline followed	OECD 105
Test Type	Water Solubility
GLP (Y/N)	N
Year (Study Performed)	2001 - 2002
Remarks	Shake flask method
Results:	550 ppb at 25 C
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS166881: Determination of the Water Solubility Following OECD Guideline 105; Envantage Inc., 4/19/02

Environmental Fate - Hydrolysis	
Test Substance:	
Remarks	Materials in the Petroleum oxidates and derivatives thereof category.
Method:	
Remarks	Hydrolysis of a chemical is a transformation process in which an organic chemical reacts with water, forms a new carbon oxygen bond, and cleaves a carbon - X bond in the original molecule, where X is the leaving group. Chemicals that have the potential to hydrolyze include alkyl halides, amides, carbamates, carboxylic acid esters and lactones, epoxides, phosphate esters, and sulfonic acid esters. Materials in the "Petroleum Oxidate and Derivatives Thereof" category do not contain hydrolyzable functional groups therefore hydrolysis if any is expected to be slow.
Results:	Hydrolysis is expected to be slow.
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	Neely, W.B. 1985. Hydrolysis. In: W.B. Neely and G.E. Blau, eds. Environmental Exposure from Chemicals. Vol 1., pp. 157-173. CRC Press, Boca Raton, FL, USA.

Acute Toxicity - Fish	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, calcium salts
CAS#	68603-11-2
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	OECD 203
Test Type	Water accommodated fraction
GLP (Y/N)	N
Year (Study Performed)	1999
Species/Strain/Supplier	Rainbow trout (<i>Oncorhynchus mykiss</i>)

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Analytical Monitoring	None
Exposure Period (unit)	96 hours
Statistical Methods	Binomial
Remarks field for test conditions	<p>Test Organisms: Source – unknown; Age – unknown; Length – 5.0 cm +/- 1cm; Wet weight – unknown; Loading density – 0.95g/L; Pretreatment – none, fish were acclimated for 12 days in lab culture water.</p> <p>Test System: A water accommodated fraction test was conducted at concentrations of 625, 1250, 2500, 5000, and 10,000 mg/L.. The fish were not fed for 24 hours before nor during the test. The test was conducted in plastic-lined containers that contained 4 L of test solution. 7 fish were used for each test concentration (no replicates were used). The test solution was aerated at 6.5 ml/min/L or 26ml/min/test volume. The test solution was maintained on a photoperiod of 16 hours light and 8 hours darkness.</p> <p>Preparation of test material: ASTM D6081-97 (modified) The test material was weighed and topped off with one liter of dechlorinated laboratory water, to achieve the desired highest test exposure load. The container holding the test item solution was mounted on an orbital shaker and covered with parafilm and shaken at 110 rpm for 24 hours before settling. After settling for 4 hours the WAF was dispensed from the top of the container. The WAF was then diluted with dechlorinated laboratory water to achieve the appropriate exposure load. The control of 100% laboratory water was prepared in a similar manner.</p> <p>Dilution water: Source – dechlorinated laboratory water; Hardness – Unknown; Analysis - unknown; Water chemistry in test: DO (mg/L) – 7-10; pH – 7.33 -8.23; specific conductance – 294-480umhos/cm.</p> <p>Test Temperature (C) - 15 +/- 2</p> <p>Test Levels: Control shaken and unshaken, 625, 1250, 2500, 5000 ,10,000 mg/L.</p>
Results:	96 hour LL50 = 3540 mg/L; 95% confidence interval = 2500-5000mg/L
Remarks:	Reference Substance: Potassium chloride Reference substance toxicity – LC50 = 4070mg/L with 95% confidence interval of 3590-4620 probit.
Conclusions:	96 hour LL = 3540 mg/L.
Data Quality:	Reliable with restrictions – Klimisch code 2
Data Quality Remarks:	Study is valid but is reliable with restrictions because it was not performed under GLP.
References:	96 hour Acute Lethality Test to Rainbow Trout (<i>Oncorhynchus mykiss</i>) on Alox 165 Batch 99491. Beak International test # 9900484-1; Beak International Incorporated, June 16, 1999.

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Acute Toxicity - Algae	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, calcium salts
CAS#	68603-11-2
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	OECD 201
Test Type	Static
GLP (Y/N)	N
Year (Study Performed)	1999
Species/Strain/Supplier	Algae (<i>Selenastrum capricornutum</i>) UTCC 37 / In-house culture
Element basis	10,000 cells/mL
Analytical Monitoring	None
Exposure Period (unit)	72 hours
Statistical Methods	Moving average and Dunnett's test.
Remarks field for test conditions	<p>Test Organisms: Cells were taken from an in-house culture of <i>Selenastrum capricornutum</i> which originated from University of Toronto Culture Collection (UTCC). The organisms' age was 4-7 days (in exponential growth).</p> <p>Preparation of test material: ASTM D6081-97 (modified) The test material was weighed and topped off with one liter of growth medium, to achieve the desired highest test exposure load. The container holding the test item solution was mounted on an orbital shaker and covered with parafilm and shaken at 110 rpm for 24 hours before settling. After settling for 4 hours the WAF was dispensed from the top of the container. The WAF was then diluted with growth medium to achieve the appropriate exposure load. The control of 100% growth medium was prepared in a similar manner.</p> <p>Test Conditions: A water accommodated fraction test was conducted at concentrations of 156, 313, 625, 1250, 2500, 5000, and 10,000 mg/L.. The test was conducted in 125mL Erlenmeyer flasks that contained 50mL of test solution. The cell density was 10,000 cells/mL (after dilution from 1×10^6 inoculum). There were 3 replicates per concentration. The test solution was maintained on a continuous photoperiod with "cool white" fluorescent lighting at approximately 8,000 lux. Shaken and unshaken growth medium were included as controls in the test to account for any effects of the shaking procedure on algae growth. Algae cells were introduced into 50mL test solution to obtain a final cell density of 10,000 cells/mL. Every 24 hrs, a 1-mL sample was removed from each of the test replicates and cells were counted using a microscope and hemacytometer.</p> <p>Dilution water: Source – Filtered culture medium; Hardness –</p>

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	Unknown; Analysis - unknown; Water chemistry in test: DO (mg/L) –unknown ; pH – 6.40-10.09 Test Temperature (C) – 23 +/- 2 Test Levels: Control shaken and unshaken, 156, 313, 625, 1250, 2500, 5000 ,10,000 mg/L.
Results:	EL50 = 3860 mg/L with 95% confidence interval of 3600 – 4110 determined by moving average based data from 24, 48, and 72 hour. NOEL = 1250 mg/L calculated from 72 hour data using the Dunnett's test .
Remarks:	Reference Substance: Zinc Sulfate Reference substance toxicity – IC50 = 32ug/L
Conclusions:	
Data Quality:	Reliable with restrictions – Klimisch code 2
Data Quality Remarks:	Study is valid but is reliable with restrictions because it was not performed under GLP.
References:	72 hour Acute Algae growth Inhibition test on Alox 165 Batch 99491. Beak International test # 9900484-2; Beak International Incorporated, June 11, 1999.

Acute Toxicity -Invertebrate	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized, Me esters, calcium salts
CAS#	68603-11-2
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	OECD 202
Test Type	Static
GLP (Y/N)	N
Year (Study Performed)	1999
Species/Strain/Supplier	Daphnia magna
Analytical Monitoring	None
Exposure Period (unit)	48 hours
Statistical Methods	Binomial probability
Remarks field for test conditions	Test Species: < 24hr old neonates Preparation of test material: ASTM D6081-97 (modified) The test material was weighed and topped off with one liter of dechlorinated laboratory water, to achieve the desired highest test exposure load. The container holding the test item solution was mounted on an orbital shaker and covered with parafilm and shaken at 110 rpm for 24 hours before settling. After settling for 4 hours the WAF was dispensed from the top of the container. The WAF was then diluted with dechlorinated laboratory water to achieve the appropriate exposure load. The control of 100% laboratory water was prepared in a similar manner.

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	<p>Test Conditions: A water accommodated fraction test was conducted at concentrations of 625, 1250, 2500, 5000, and 10,000 mg/L. The daphnia were not fed for during the test. The test was conducted in 120ml glass jars with a test volume of 75ml. 5 daphnia per chamber were used for each test concentration with 4 replicates per concentration. The test solution was not aerated during exposure period. The test solution was maintained on a photoperiod of 16 hours light and 8 hours darkness.</p> <p>Dilution water: Source – Aged reconstituted water (>24hrs), with a dissolved content of 90 to 100% saturation at time of use.; Hardness – 130mg/L at test initiation; Analysis - unknown; Water chemistry in test: DO (mg/L) – >40% <100% ; pH – 7.99-8.19; specific conductance 409-553 umhos/cm</p> <p>Test Temperature (C) – 20 +/- 2</p> <p>Element: Immobilization/mortality</p> <p>Test Levels: Control shaken and unshaken, 625, 1500, 2500, 5000, 10000 mg/L.</p>
Results:	48hr- LL50= 7070mg/L 95% confidence Interval 5000 – 10,000 mg/L
Remarks:	Reference Substance: Sodium Chloride Reference substance toxicity – LC50= 4650mg/L 95% confidence Interval 3600- 6000 mg/L.
Conclusions:	
Data Quality:	Reliable with restrictions – Klimisch code 2
Data Quality Remarks:	Study is valid but is reliable with restrictions because it was not performed under GLP.
References:	48-hour Acute Lethality Test for <i>Daphnia magna</i> on Alox 165 Batch 99491. Beak International test # 9900484-0; Beak International Incorporated, June 2, 1999.

Acute Toxicity - Oral	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized
CAS#	64743-00-6
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	OECD 401
Test Type	Acute Oral Toxicity, Single Level
GLP (Y/N)	Y
Year (Study Performed)	1993
Species	Rat
Strain	Sprague-Dawley
Route of Administration	Oral
Dose Levels	5.0 g/kg

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Sex and Number/Group	5 male and 5 female
Frequency of Treatment	Animals were given 24hrs to consume test material.
Duration of Test	14 day observation post-treatment
Control Group	No negative control group
Results:	LD50 > 5.0 g/kg
Remarks:	Five male and five female Sprague-Dawley rats weighing 200 to 240 grams were used for this study. The animals were deprived of food but not water overnight prior to dosing. The test article was ground into small pieces and mixed with 4mL of peanut butter and 2 mL of honey. All 10 of the animals consumed the test article within 24hrs. The animals were allowed water and food <u>ad libitum</u> for the 14-day observation period. The rats were observed for any signs of toxicity and mortality throughout the 14-day observation period. Animals were observed frequently on the day of dosing and a careful clinical examination was performed at least once a day. Individual body weights were recorded on the day of dosing, Day 9, and prior to sacrifice. There were no abnormal observations noted throughout the 14-day observation period. No gross abnormalities were observed in the five males or five females at necropsy.
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	Summary of Results of acute toxicology study: Batch 57725, Bioresearch Inc., 3/17/93.

Acute Toxicity - Oral	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized
CAS#	64743-01-7
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	Consistent with OECD 401/ Limit test
Test Type	Acute Oral Toxicity
GLP (Y/N)	No
Year (Study Performed)	1969
Species	Unknown
Strain	Rats
Route of Administration	Oral
Dose Levels	5.0 g/kg
Sex and Number/Group	10 males
Frequency of Treatment	Single oral dose
Duration of Test	14-day observation post-treatment
Control Group	No negative control group
Results:	LD50 > 5.0 g/kg
Remarks:	5 g/Kg of test material was administered in warm corn oil via feeding needle. All animals exhibited varying degrees of diarrhea. 0/10 deaths were observed after 14 days.
Data Quality:	Reliable with restrictions – Klimisch code 2

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References:	Lawall & Harrison Research Laboratories Inc.; January 29, 1969.
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Acute Toxicity - Oral	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized
CAS#	68603-10-1
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	OECD 423
Test Type	Acute Oral Toxicity
GLP (Y/N)	Yes
Year (Study Performed)	2002
Species	Wistar Albino
Strain	Rats
Route of Administration	Oral
Dose Levels	2.0 g/kg
Sex and Number/Group	3 male and 3 females
Frequency of Treatment	Single oral dose
Duration of Test	14-day observation post-treatment
Control Group	No negative control group
Results:	LD50 > 2.0 g/kg
Remarks:	Three healthy male and three healthy female Wistar albino rats were weighing between 200 and 260 grams were dosed orally at 2000mg/kg. Feed was freely available except for 16-20 hours prior to dosing. Water was available at all times. A single dose of the test material was administered orally by syringe and dosing needle. The rats were then observed 1, 2, 3 and 4 hours post dose and once daily for 14 days for mortality, toxicity and pharmacological effects. All body weight changes were normal in 3/3 males and 1/3 females. Two females lost weight during the second week of the observation period. Instances of dyspnea were noted in the females on the day of dosing only. The necropsy results were normal.
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	MB Research Laboratories; Acute Toxic Class Determination (Oral) for 125U-56; September 24, 2002.

Acute Toxicity - Oral	
Test Substance:	
Chemical Name	Hydrocarbon waxes (petroleum) Oxidized Me ester, Ca salts
CAS#	68603-11-2
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	OECD 401

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Test Type	Acute Oral Toxicity
GLP (Y/N)	N
Year (Study Performed)	1980
Species	Sprague Dawley
Strain	Rats
Route of Administration	Oral
Dose Levels	5, 10, and 15 ml/kg
Sex and Number/Group	5 male and 5 female for each dosage
Frequency of Treatment	Single intubation
Duration of Test	14-day observation post-treatment
Control Group	No negative control group
Results:	LD50 > 15 ml/kg
Remarks:	Ten Sprague Dawley rats (5 male and 5 female) each weighing between 200 and 300 grams, were selected for each dose. The animals were fed commercial rat food diet. Water was available <u>ad libitum</u> . Food was removed 12 to 24 hours before dosage. The sample was fed to unanesthetized animals by oral intubation using a 16 gauge "ball point" needle and syringe. The animals were observed for gross toxicological effects immediately after administration of the sample, after 1 hour, after 4 hours, and once daily for 14 days. The LD50 was calculated using the method of J.T. Litchfield and F. Wilcoxon – "A Simplified Method of Evaluating Dose-Effect Experiments". There were no deaths in any animals at any dose level. The LD50 is greater than 15ml/kg.
Data Quality:	Reliable with restrictions – Klimisch code 2
References:	Alox 165; Acute Oral Toxicity; United States Testing Company, Inc.; 5/2/80.

Invitro Genetic Toxicity	
Test Substance:	
Chemical Name	Distillates, (petroleum), oxidized light
CAS#	64742-98-9
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	ASTM E1687-98
Test Type	Modified Ames Test
GLP (Y/N)	N
Year (Study Performed)	2000
System of Testing	<i>Salmonella typhimurium</i> TA98
Concentration	0, 6, 12, 18, 24, 30 µL per plate
Metabolic Activation	With metabolic activation
Results:	MI= 0.23
Remarks:	The tester strain S. typhimurium TA 98 was used in this study. Three dimethyl sulfoxide (DMSO) extracts of the test article and one reference oil were tested. The test material was extracted by adding 5 volumes of DMSO to one volume

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	<p>of sample, which was vortexed for 30 seconds every five minutes for 30 minutes at room temperature. The material was centrifuged and the extract was removed. The sample extracts were diluted in DMSO to the appropriate concentration in 60uL dosing aliquots. The sample extracts were tested at 0, 6, 12, 18, 24, and 30, uL per plate. The reference oil was tested at 0, 3, 6, 9, 12, and 15uL per plate. The S-9 was derived from Syrian Golden Hamster liver, prepared by and purchased from Molecular Toxicology Inc. The mean reverents per plate were plotted against volume of DMSO extract for the test articles and reference oil. The data was analyzed using a suitable graphics-statistics program to determine the slope of the dose-response curve which gives the Mutagenicity Index (MI) of the material. Modified Ames Testing of petroleum streams has shown that oils with MI's greater than 1 are likely to be carcinogenic in the mouse skin-painting bioassay, while oils with MI under 1 are not. This material with a MI of 0.23, is not likely to be mutagenic.</p>
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS158944: Modified Ames Testing of Fifteen Wax Samples from Lubrizol Corp.; Petro Labs Inc. October 26, 2000.

Invitro Genetic Toxicity	
Test Substance:	
Chemical Name	Hydrocarbon waxes, (petroleum), oxidized
CAS#	64743-00-6
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	ASTM E1687-98
Test Type	Modified Ames Test
GLP (Y/N)	N
Year (Study Performed)	2000
System of Testing	<i>Salmonella typhimurium</i> TA98
Concentration	0, 6, 12, 18, 24, 30 µL per plate
Metabolic Activation	With metabolic activation
Results:	MI= 0.16
Remarks:	<p>The tester strain <i>S. typhimurium</i>, TA 98 was used in this study. Three dimethyl sulfoxide (DMSO) extracts of the test article and one reference oil were tested. The test material was extracted by adding 5 volumes of DMSO to one volume of sample, which was vortexed for 30 seconds every five minutes for 30 minutes at room temperature. The material was centrifuged and the extract was removed. The sample extracts were diluted in DMSO to the appropriate concentration in 60uL dosing aliquots. The sample extracts were tested at 0, 6, 12, 18, 24, and 30, uL per plate. The reference oil was tested at 0, 3, 6, 9, 12, and 15uL per plate. The S-9 was derived from Syrian Golden Hamster liver, prepared by and purchased from Molecular Toxicology Inc. The mean reverents per plate were plotted against volume</p>

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	of DMSO extract for the test articles and reference oil. The data was analyzed using a suitable graphics-statistics program to determine the slope of the dose-response curve, which gives the Mutagenicity Index (MI) for that material. Modified Ames Testing of petroleum streams has shown that oils with MI's greater than 1 are likely to be carcinogenic in the mouse skin-painting bioassay, while oils with MI under 1 are not. This material with a MI of 0.16 is not likely to be mutagenic.
Data Quality:	Reliable without restrictions – Klimisch code 1
References:	OS158948: Modified Ames Testing of Fifteen Wax Samples from Lubrizol Corp.; Petro Labs Inc. October 26, 2000.

Invitro Genetic Toxicity	
Test Substance:	
Chemical Name	Petrolatum, (petroleum), oxidized
CAS#	64743-01-7
Purity	100% commercial product.
Remarks	
Method:	
Method/Guideline followed	ASTM E1687-98
Test Type	Modified Ames Test
GLP (Y/N)	N
Year (Study Performed)	2000
System of Testing	<i>Salmonella typhimurium</i> TA98
Concentration	0, 12, 24, 36, 48, 60 µL per plate
Metabolic Activation	With metabolic activation
Results:	MI=0
Remarks:	The tester strain <i>S. typhimurium</i> , TA 98 was used in this study. Three dimethyl sulfoxide (DMSO) extracts of the test article and one reference oil were tested. The test material was extracted by adding 5 volumes of DMSO to one volume of sample, which was vortexed for 30 seconds every five minutes for 30 minutes at 70C. The material was centrifuged and the extract was removed. The sample extracts were diluted in DMSO to the appropriate concentration in 60uL dosing aliquots. The sample extracts were tested at 0, 12, 24, 36, 48, and 60, uL per plate. The reference oil was tested at 0, 3, 6, 9, 12, and 15uL per plate. The S-9 was derived from Syrian Golden Hamster liver, prepared by and purchased from Molecular Toxicology Inc. The mean reverents per plate were plotted against volume of DMSO extract for the test articles and the reference oil. The data was analyzed using a suitable graphics-statistics program to determine the slope of the dose-response curve, which gives the Mutagenicity Index (MI) for the material. Modified Ames Testing of petroleum streams has shown that oils with MI's greater than 1 are likely to be carcinogenic in the mouse skin-painting bioassay, while oils with MI under 1 are not. This material with a MI of 0 is not likely to be mutagenic.
Data Quality:	Reliable without restrictions – Klimisch code 1

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References:	OS158941: Modified Ames Testing of Fifteen Wax Samples from Lubrizol Corp.; Petro Labs Inc. October 26, 2000.
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